

# Red Hat Runtimes

## Product overview

Development organizations need to deliver solutions to the business faster than ever while minimizing cost and lowering risk. As a result, they need multiple tools, languages, and frameworks to implement their business applications. Having the right tool for the right task is a requirement. At the same time, existing applications need to evolve and integrate with new, agile processes and highly-distributed architectures that use the cloud.

### Features

- Multiple supported runtimes and frameworks
- DevOps-ready
- Integrated runtimes and application capabilities
- Enterprise-grade, production-ready

### Benefits

- Provides access to established and emerging technologies
- Increases developer productivity
- Accelerates time to market
- Offers a standardized application development portfolio
- Provides market-proven technologies

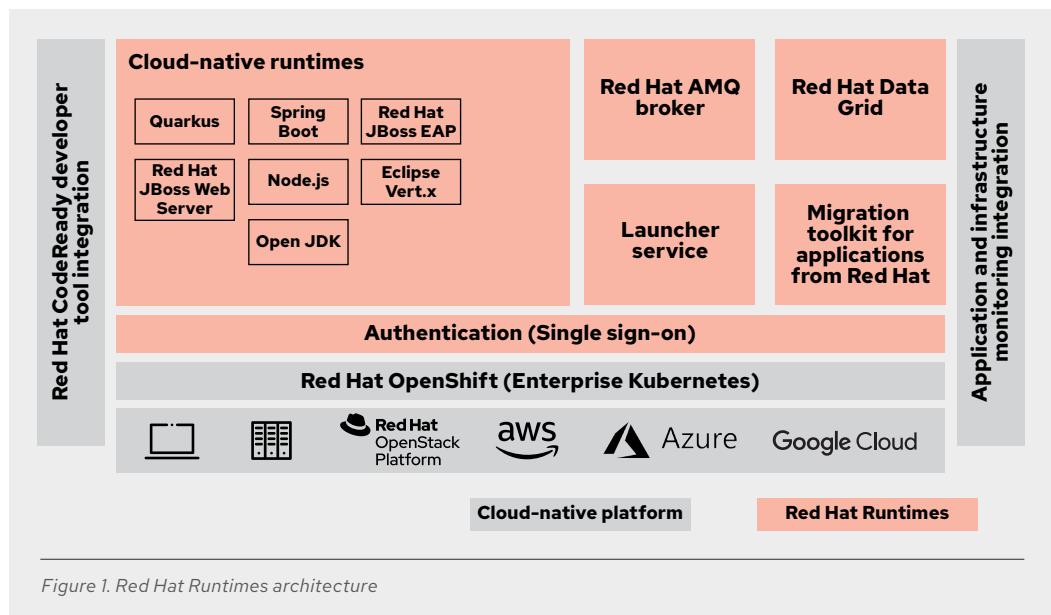


Figure 1. Red Hat Runtimes architecture



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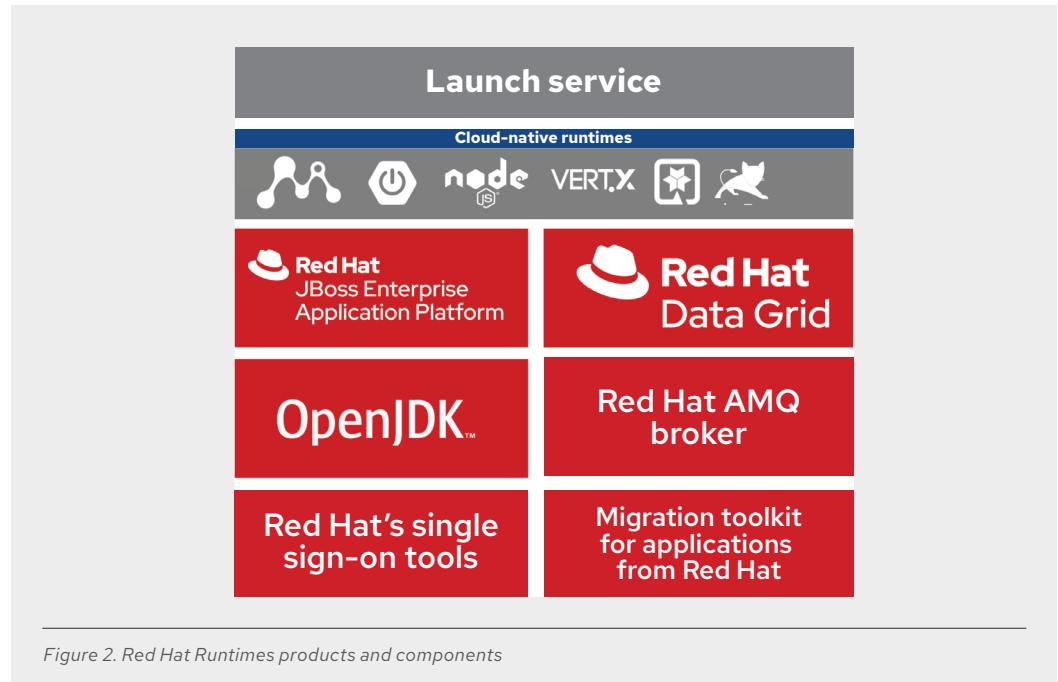
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**Table 1. Features and benefits of Red Hat Runtimes**

Key features	Benefits
Multiple supported runtimes and frameworks	<b>Established and emerging technologies</b> Provides access to established and emerging middleware technologies for true freedom and flexibility.
Integrated runtimes and application capabilities	<b>Standardized application development portfolio</b> Standardizes your application development portfolio, including runtimes, data messaging, data access, and security. Increases developer productivity to save your organization time and money.
DevOps-ready	<b>Accelerated time to market</b> Offers tight integration with Red Hat OpenShift® to accelerate time to market by providing the ideal platform to develop, deliver, and deploy cloud-native applications.
Enterprise-grade, production-ready middleware technologies	<b>Market-proven technologies</b> Provides established and market-proven technologies and production-ready capabilities, including application runtimes, data caching, data messaging, and security.
Example applications, migration toolkit for applications	<b>Developer productivity</b> Delivers increased efficiencies by providing developers the tools they need to migrate and optimize existing apps so that more time can be spent innovating and staying competitive.

### Technical specifications

Red Hat Runtimes is a recommended set of products, tools, and components to develop and maintain cloud-native applications. The portfolio provides runtimes, frameworks, fast data access, and high-performance messaging in flexible, easy-to-use, cost-effective, open, and collaborative ways. Red Hat Runtimes can run on-premise, in the cloud, or within a container platform, such as Red Hat OpenShift.



**Table 2. Descriptions of Red Hat Runtimes products and components**

Products	Runtimes
Cloud-native runtimes	<p><b>Red Hat build of Quarkus.</b> Provides a Kubernetes-native JavaTM stack that is crafted from top Java libraries and standards and tailored for containers and cloud deployments.</p> <p><b>Red Hat build of Eclipse Vert.x.</b> Builds distributed and reactive applications on top of a Java Virtual Machine (JVM) using an asynchronous, non-blocking development model.</p> <p><b>Red Hat build of Node.js.</b> Provides a trusted platform for building, hosting, and scaling server-side JavaScript applications.</p> <p><b>Red Hat support for Spring Boot.</b> Creates standalone, production-grade Spring-based applications that use a Red Hat JBoss® Web Server-embedded Apache Tomcat container.</p>
Red Hat JBoss Enterprise Application Platform (EAP)	Provides a leading open source Jakarta EE-based application runtime for building, deploying, and executing highly transactional Java applications and services. Includes support for MicroProfile with optional extensions.

## Products

Red Hat build of OpenJDK	Free and open source implementation of the Java Platform, Standard Edition (SE) and the default Java development and runtime in Red Hat Enterprise Linux®. Packages for OpenJDK are made available in Red Hat Enterprise Linux in the same manner as the rest of the content set.
Red Hat Data Grid	An enterprise open source distributed data management system for application data that uses memory, keeps information synchronized across multiple servers, and can be used as distributed cache, NoSQL database and event broker.
Red Hat JBoss Web Server	Simplifies the development and management of open source web application environments. Includes a certified, production-ready distribution of Apache Tomcat and supporting libraries used to quickly build, deploy, and manage simple Java web applications and services.
Red Hat AMQ broker	Red Hat AMQ broker is a full-featured, message-oriented middleware broker. It offers specialized queueing behaviors, message persistence, and manageability.
Migration toolkit for applications from Red Hat	The migration toolkit for applications provides a set of utilities for easing the process of taking customers' proprietary or outdated middleware platforms to a state-of-the-art, lightweight, modular, and cloud-ready middleware application infrastructure—making teams more productive and ready for the future.
Single sign-on (SSO)	Based on the Keycloak project, SSO allows customers to add security to web applications by providing web SSO capabilities based on popular standards such as SAML 2.0, OpenID Connect, and OAuth 2.0. The SSO server can act as a SAML or OpenID Connect-based identity provider, integrating your enterprise user directory or third-party SSO provider for identity information with your applications via standards-based tokens.

## Products

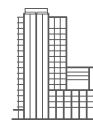
### Launcher service

The launcher service helps developers build and deploy a new application in under five minutes. The service creates the application scaffolding so developers can focus on writing the business logic and delivering value. The launcher service allows the user to select a front-end application (i.e., React, Angular, Vue.js), backend runtime (i.e., Quarkus, Node.js, Spring Boot, Thorntail, Vert.x), and backend capability (i.e., relational db, http api). The service offers the choice of building and deploying online via Red Hat OpenShift or running locally.

The service also provides preconfigured, functioning sample applications that demonstrate core principles of modern microservices application development and run in an environment similar to production.

To learn more, visit [red.ht/runtimes](https://red.ht/runtimes).

## About Red Hat



Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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